

**REMARKS**

Claims 1-6 and 8-22 are all the claims pending in the application. Claims 3, 4 and 8-10 are withdrawn from consideration. Claims 1, 2, 5, 6 and 11-22 are rejected. Claims 1 and 2 are amended. These amendments are made in accordance with the suggestions by the Examiner at page 2, lines 3-5 from the bottom of the Office Action. Accordingly, there should be no new issue raised and no new search is required. The amendment should be entered for purposes of Appeal so that the number of issues on appeal is limited.

***Double Patenting***

**Claims 1, 2, 5-7, 11, 12 and 16-19 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1 and 2 of USP 6,759,138 (Tomiyasu).** This rejection is traversed for at least the following reasons.

First, with respect to claim 7, the rejection is moot in view of the cancellation of the claim.

Applicants respectfully submit that Tomiyasu does not teach or suggest the limitations of the claims, particularly as now defined by the Applicants. Notwithstanding the Examiner's citation of two exceptions in the MPEP for reliance on the specification to support an obviousness-type double patenting rejection, the present amendments are directed to subject matter that has no related teachings in Tomiyasu. Thus, this rejection should be overcome.

***Claim Rejections – 35 USC 102***

**Claims 1, 2, 5-7, 11, 12 and 16-19 are rejected under 35 USC 102(e) as being anticipated by Tomayasu (6,759,138).** This rejection is traversed for at least the following reasons.

First, with respect to claim 7, the rejection is moot in view of the cancellation of the claim.

Claims 1 and 2, as now amended to clarify the anti-parallel directions of magnetization of the two magnetic layers, state that the principal surface of the spacer layer has a surface roughness Ra which is not greater than the thickness of the spacer layer. That is, the invention as now defined by all of the claims has a feature characterized in that “the principal surface of the spacer layer has a surface roughness Ra which is not greater than the thickness of the spacer

layer.” This feature of the claimed magnetic disc with such principal surface characteristic of the spacer layer can suppress the variation in exchange coupling and, therefore, can obtain excellent thermal fluctuation resistance.

Tomayasu et al ‘138 neither discloses nor suggests that the principal surface of a spacer layer should have a surface roughness Ra which is not greater than the thickness of the spacer layer. Tomayasu et al only discloses that the spacer layer has a surface roughness Ra of 0.6 nm or less (see claim 3). In addition, Tomayasu et al only discloses at column 8, lines 10-13 that the spacer layer has a thickness of 7 angstroms (that is, 0.7 nm) as an example.

Applicant notes that the Examiner points in Item 10 at page 12 of the Office Action that Tomayasu et al teaches that the thickness of the spacer layer is 0.7 nm while the Ra is less than 0.6 nm, thereby meeting the limitations of the claims. However, Tomayasu et al neither discloses nor suggests that, as set forth in the amended claims 1 and 2, the principal surface of the spacer layer has a surface roughness Ra which is not greater than the thickness of the spacer layer.

**Claims 1, 2, 5-7, 11, 12 and 16-19 are rejected under 35 USC 102(e) as being anticipated by Tomayasu (2003/0104248).** This rejection is traversed for at least the following reasons.

First, with respect to claim 7, the rejection is moot in view of the cancellation of the claim.

Second, Tomayasu ‘248 has the same deficiency as already cited for Tomayasu ‘138 and the claims would be patentable for the same reasons as given above.

#### ***Claim Rejections – 35 USC 103***

**Claims 1, 2, 5, 6, 11-13 and 16-20 are rejected under 35 USC 103(a) as being unpatentable over Abarra (6,602,612) in view of Fukuzawa (2005/0030676).** This rejection is traversed for at least the following reasons.

None of U.S. Patent No. 6,602,612B2 (Abarra et al) or U.S. Patent App. No. 2005/0030676A1 (Fukuzawa et al) either discloses or suggests that the principal surface of the

spacer layer has a surface roughness Ra which is not greater than the thickness of the spacer layer.

**Claims 1, 2, 5, 6, 11-13 and 16-20 are rejected under 35 USC 103(a) as being unpatentable over Abarra (2001/0055701) in view of Fukuzawa (2005/0030676).** This rejection is traversed for at least the following reasons.

None of U.S. Patent App. No. 2001/0055701A1 (Abarra et al) or U.S. Patent App. No. 2005/0030676A1 (Fukuzawa et al) either discloses or suggests that the principal surface of the spacer layer has a surface roughness Ra which is not greater than the thickness of the spacer layer.

**Claims 14, 15, 21 and 22 are rejected under 35 USC 103(e) as being unpatentable over Abarra (6,602,612) or Abarra (2001/0055701), either in view of Fukuzawa (2005/0030676) and Chen et al (5,846,648).** This rejection is traversed for at least the following reasons.

None of U.S. Patent No. 6602612B2 (Abarra et al), U.S. Patent App. No. 2005/0030676A1 (Fukuzawa et al), U.S. Patent App. No. 2001/0055701A1 (Abarra et al), and U.S. Patent No. 5846648 (Chen et al), either discloses or suggests that the principal surface of the spacer layer has a surface roughness Ra which is not greater than the thickness of the spacer layer.

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

Amendment Under 37 C.F.R. § 1.116  
U.S. Application No. 10/762,574

USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,

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